UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,951	07/08/2003	Myeong-Jin Lee	SAM-0433	7111

7590	01/28/2005

Anthony P. Onello, Jr.
MILLS & ONELLO LLP
Eleven Beacon Street, Suite 605
Boston, MA 02108

EXAMINER
NGUYEN, TANH Q

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- Th MAILING DATE of this communication appears on th cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 July 2003 and 15 October 2004</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2 and 7</u> is/are rejected..

7)☒ Claim(s) <u>3-6 and 8-11</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>08 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date <u>10/15/04</u>.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Specification

1.　The abstract of the disclosure is objected to because it exceeds 150 words in length.　Correction is required.　See MPEP § 608.01(b).

Claim Objections

2.　Claims 1-11 are objected to because of the following informalities:

"**by**" in claim 1, line 6 should be replaced with "**to**" to be consistent with claim 2, line 3.

"**by**" in claim 3, line 10 should be replaced with "**to**" to be consistent with claim 2, line 3.

"**by**" in claim 8, line 20 should be replaced with "**to**" to be consistent with claim 2, line 3.

Claim 10, line 4 recites "a third comparing circuit" without inclusion of "a second comparing circuit".　It appears that applicant meant for claim 10 to depend on claim 9 instead of claim 8 - as claim 9 recites "a second comparing circuit".

Claim 11, line 3 recites "a second register" and line 4 recites "a fourth comparing circuit" without inclusion of "a first register", "a second comparing circuit", and "a third comparing circuit".　It appears that applicant meant for claim 11 to depend on claims 9 and 10, instead of claim 8 - as claim 9 recites "a second comparing circuit", and as claim 10 recites "a first register" and "a third comparing circuit".

Claims 2-6 are objected to because they depend on claim 1. Claims 4-6 are objected to because they depend on claim 3. Claims 9-11 are objected to because they depend on claim 8.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.   Claims 1, 2, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yang et al. (USP 5,546,543)** in view of **Brown et al. (USP 6,397,287)**.

6.   As per claim 1, **Yang** teaches a method of controlling at least one of a

transmitting buffer [220, FIG. 2] and a receiving buffer [210, FIG. 2] of a network

controller [20, FIG. 2], comprising:

receiving at least one request for access of a system bus [15, FIG. 2] from the

transmitting buffer and the receiving buffer [col. 4, lines 6-9]; and

determining an **occupancy level** of data in the transmitting buffer [investigate

whether the number the amount of data resident in the transmit buffer is greater than a

second threshold level (col. 4, lines 15-17), hence determining an occupancy level of

data in the transmitting buffer] and a **vacancy level** of data in the receiving buffer

[inquire whether the number of empty data byte locations is greater a first threshold

level (col. 4, lines 12-14), hence determining a vacancy level of data in the receiving

buffer] and granting access to the system bus to the transmitting buffer or the receiving

buffer based on the determination result [col. 4, lines 10-22; col. 6, lines 32-39].

Yang, therefore, teaches the claimed invention except for determining **a vacancy

level (instead of an occupancy level)** of the data in the transmitting buffer and an

occupancy level (instead of a vacancy level) of data in the receiving buffer.

Brown teaches for a transmitting buffer of a given size, the vacancy level

(TxFree) and the occupancy level (TxUsed) being complementary and may be inferred

from one register value [col. 11, line 66-col. 12, line 9]; and for a receiving buffer of a

given size, the vacancy level (RxFree) and the occupancy level (RxUsed) being

complementary and may be inferred from one register value [col. 14, lines 28-38].

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to infer the occupancy level of data in the transmitting buffer

(having a given size) from the vacancy level of data in the transmitting buffer when the

one register value of the transmitting buffer corresponds to the vacancy level of data in

the transmitting buffer, as is taught by Brown - hence determining the vacancy level of

data in the transmitting buffer in the process, and to infer the vacancy level of data in

the receiving buffer (having a given size) from an occupancy level of data in the

receiving buffer when the one register value of the receiving buffer corresponds to the

occupancy level of data in the receiving buffer, as is taught by Brown - hence

determining the occupancy level of data in the receiving buffer in the process, in order

to grant access to the system bus (i.e. to use the determination result to grant access to

the system bus to the transmitting buffer or the receiving buffer).

7.   As per claim 2, Yang teaches granting access to the system bus comprising

receiving the request for access to the system bus from one of the transmitting and

receiving buffers and granting access to the system bus to the one of the transmitting

and receiving buffers sending the request [col. 3, lines 46-48].

8.   As per claim 7, Yang, in combination with Brown, teaches the method for

controlling a transmitting and a receiving buffer of a network controller, hence teaches a

program for executing the method using a computer, the program inherently being

recorded on a computer readable recording medium for execution on a computer.

Allowable Subject Matt r

9.   Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and including amendment to overcome the objections set forth in this Office action.

10.   Claims 8-11 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

11.   The following is a statement of reasons for the indication of allowable subject matter:

the prior art, individually or in combination, does not teach comparing the occupancy level of data in the receiving buffer with the vacancy level of data in the transmitting buffer based on a determination result, and granting access to the system bus to one of the transmitting buffer or the receiving buffer based on the determination result.

the prior art, individually or in combination, does not teach a first determination circuit for determining if the occupancy level of the receiving buffer is increasing, and outputting a result of the determination as a first signal; a second determination circuit for determining if the vacancy level of the transmitting buffer is increasing, and outputting result of the determination as a second signal; a comparing circuit comparing the vacancy level of the transmitting buffer with the occupancy level of the receiving buffer and outputting a comparison result; and a logic circuit outputting a permission

signal to the receiving buffer or the transmitting buffer in response to the first signal, the

second signal, and the comparison result, the permission signal granting access to the

system bus to one of the transmitting buffer and receiving buffer.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tanh Quang Nguyen whose telephone number is (571)

272-4154 and whose e-mail address is tanh.nguyen36@uspto.gov. The examiner can

normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey Gaffin, can be reached on (571) 272-2100. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306

for After Final, Official, and Customer Services, or (571) 273-4154 for Draft to the

Examiner (please label "PROPOSED" or "DRAFT").

Effective May 1, 2003 are new mailing address is:

Mail Stop _____
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Effective December 1, 2003, hand-carried patent application related incoming

correspondences will be to a centralized location.

U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window

Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197.

01/19/2005

TQN
January 18, 2005